

## Agilent N6700 MPS Low-Profile Modular Power System

Models: N6700B, N6710B, N6731B-36B, N6741B-46B,  
N6751A, N6752A, N6761A, N6762A

### Product Overview

**New!**

Higher voltage and  
higher current models



- Ideal for ATE systems in R&D, Design Validation, and Manufacturing
- Small size: up to 4 outputs in 1U of rack space
- Flexible, modular system: Can mix and match power levels and performance levels to optimize investment
- Performance modules for critical test requirements
- Value modules for basic DC power requirements
- Fast command processing times to improve throughput
- Connect via GPIB, LAN, or USB



**Agilent Technologies**

## If you are using Agilent Multiple-Output System DC Power Supplies Now

### Models

6621A, 6622A, 6623A,

6624A, 6625A, 6626A,

6627A, 6628A, 6629A

If you would like to take advantage of the size and speed of the N6700, and need assistance in converting from Agilent 662x to the N6700, please refer to "Application Note 1467— How to use the Agilent N67xxA Modular Power System to replace an Agilent 662xA". Look for literature part number 5989-0466EN at [www.agilent.com/find/N6700](http://www.agilent.com/find/N6700)

## The N6730 and N6740 Families: Basic Modules when you just need a simple power supply

Not all applications require high performance power supplies. When your budget is tight, and when speed and accuracy are a low consideration, the Agilent N6700 Low-Profile MPS supports basic DC power modules that provide an economical solution. The N6730 and N6740 families give you clean, reliable DC power without advanced features.

The Agilent N6730 family of 50 W DC Power Modules and the N6740 family of 100 W DC Power Modules provide the following:

- Fully programmable Constant Voltage/Constant Current DC Source
- Remote sensing for accurate control of output voltage when voltage drops in the leads are present
- Built-in measurements of voltage and current
- Protection (over-voltage over-current, and over-temperature) against damage to your DUT or to the power module

- Performance (programming accuracy, measurement accuracy, noise) suitable for most common DC power applications
- Built-in optional output disconnect relays, which break both the power and the sense leads, to simplify system wiring

### Use the N6730/40 in Place of Fixed-output DC Power Supplies

Many ATE systems have complex fixtures that contain indicator lights, relays or active circuits (like sensors, triggers, amplifiers) to facilitate testing of the DUT. These circuits need DC power, too. One solution for powering these ATE system resources would be to purchase a fixed-output DC source. However, there are considerations when integrating a fixed output DC source into an ATE system.

The table below illustrates these points and how it may be easier, faster, and more economical to purchase an N6730/40 programmable DC Power Module in place of a fixed-output DC Power Supply.

**All the benefits of the N6700 MPS at a low price**

While the N6730/40 are economical solutions to basic DC power requirements, they are also part of the N6700 MPS. Therefore, while saving, you still have the benefits of:

- Small size (true 1U)
- Mix-and-match with other N6700 DC Power Modules when you need performance along with basic DC outputs
- Connectivity via LAN, USB, and GPIB
- Fast command processing time of less than 1 ms
- Remote control over internet via standard web browser
- Friendly front panel
- Optional output disconnect relays

Factor	Consideration When Using a Fixed-Output DC Power Supply	Solution Using N6730/40 DC Power Modules in N6700 MPS
<b>Control the output</b>	You may want some limited control over this DC source (on/off).	The N6730/40 is fully controllable over LAN, USB, GPIB
<b>Monitor the output</b>	You may want to be able to monitor the voltage or current to ensure proper operation, which would require wiring to a system DMM.	The N6730/40 has built-in measurements of voltage and current, eliminating the need for wiring to a system DMM.
<b>Mounting the power supply</b>	You will need to mount the power supply in the ATE system. Finding a safe location can be a challenge. Some system designers will build a “drawer” or “tray” for holding power supplies. However, this adds extra design time, fabrication costs, installation costs, and occupies rack space.	The N6730/40 are compact modules integrated into a 1U rack mountable mainframe. There is no need to design or build any custom mounting hardware.
<b>Safety</b>	You may want to provide a safety interlock to this DC source. This would require control (on/off) and a means to detect the interlock condition.	The N6730/40 have hardware inputs for remote on/off that can be directly connected to a safety interlock system.

## Performance Specifications

Unless otherwise noted, specifications are warranted over the ambient temperature range of 0 to 55°C, and derated above 40°C.

		N6751A / N6752A	N6761A / N6762A
<b>DC Output Ratings</b>			
	Voltage	50 V	50 V
	Current	5 A / 10 A	1.5 A / 3 A
	Power	50 W / 100 W	50 W / 100 W
<b>Output Ripple and Noise (PARD)</b> (from 20 Hz – 20 MHz)			
	CV peak-to-peak <sup>1</sup>	6 mV	6 mV
	CV rms	1 mV	1 mV
<b>Load Effect (Regulation)</b> (for any output load change, with a maximum load-lead drop of 1 V per lead)			
	Voltage	2 mV	0.5 mV
	Current	2 mA	30 µA
<b>Source Effect (Regulation)</b>			
	Voltage	1 mV	1 mV
	Current	1 mA	30 µA
<b>Programming Accuracy</b> (at 23°C ±5°C after 30 minute warm-up. Applies from min. to max. programming range)			
	Voltage high range	0.06% + 19 mV	0.016% + 6 mV
	Voltage low range (≤ 5.5 V)	N/A	0.015% + 1.5 mV
	Current high range	0.1% + 20 mA	0.04% + 200 µA
	Current low range (≤ 100 mA, @ 0 - 7 V) <sup>NOTE 2</sup>	N/A	0.04% + 15 µA
	(≤ 100 mA, @ 0 - 50 V)	N/A	0.04% + 55 µA
<b>Measurement Accuracy</b> (at 23°C ±5°C)			
	Voltage high range	0.05% + 20 mV	0.016% + 6 mV
	Voltage low range (≤ 5.5 V)	N/A	0.016% + 1.5 mV
	Current high range	0.1% + 4 mA	0.03% + 200 µA
	Current low range (≤ 100 mA, @ 0 - 7 V) <sup>NOTE 2</sup>	N/A	0.03% + 15 µA <sup>NOTE 3</sup>
	(≤ 100 mA, @ 0 - 50 V)	N/A	0.03% + 55 µA
<b>Load Transient Recovery Time</b> (time to recover to within the settling band following a load change)			
• from 60% to 100% and from 100% to 60% of full load for models N6751A & N6761A			
• from 50% to 100% and from 100% to 50% of full load for models N6752A & N6762A.			
	Voltage settling band	± 75 mV	± 75 mV
	Time	< 100 µs	< 150 µs

<sup>1</sup> For typical values, refer to Supplemental Characteristics.

<sup>2</sup> Requires a 3 minute wait if you have entered the 0- 7 V range from a voltage greater than 7 V..

<sup>3</sup> Applies when measuring 4006 data points (SENSe:SWEep:POINts = 4096).

## Performance Specifications (Continued)

Unless otherwise noted, specifications are warranted over the ambient temperature range of 0 to 55°C, and derated above 40°C.

		<b>N6731B/ N6741B</b>	<b>N6732B/ N6742B</b>	<b>N6733B/ N6743B</b>	<b>N6734B/ N6744B</b>	<b>N6735B/ N6745B</b>	<b>N6736B/ N6746B</b>
<b>DC Output Ratings</b>							
	Voltage	5 V	8 V	20 V	35 V	60 V	100 V
	Current	10 A / 20 A	6.25 A / 12.5 A	2.5 A / 5 A	1.5 A / 3 A	0.8 A / 1.6 A	0.5 A / 1 A
	Power	50 W / 100 W	50 W / 100 W	50 W / 100 W	50 W / 100 W	50 W / 100 W	50 W / 100 W
<b>Output Ripple and Noise (PARD)</b> (from 20 Hz – 20 MHz)							
	CV peak-to-peak	10 mV / 11 mV	12 mV	14 mV	15 mV	25 mV	30 mV
	CV rms	2 mV	2 mV	3 mV	5 mV	9 mV	18 mV
<b>Load Effect (Regulation)<sup>1</sup></b>							
	Voltage	4 mV	4 mV	4 mV	5 mV	5 mV	5 mV
	Current	2 mA	2 mA	2 mA	2 mA	2 mA	2 mA
<b>Source Effect (Regulation)</b>							
	Voltage	1 mV	2 mV	2 mV	4 mV	6 mV	10 mV
	Current	1 mA	1 mA	1 mA	1 mA	1 mA	1 mA
<b>Programming Accuracy<sup>2</sup></b> (at 23°C ±5°C after a 30 minute warm-up)							
	Voltage	0.1% + 19 mV	0.1% + 19 mV	0.1% + 20 mV	0.1% + 35 mV	0.1% + 60 mV	0.1% + 100 mV
	Current	0.15% + 20 mA	0.15% + 20 mA	0.15% + 20 mA	0.15% + 20 mA	0.15% + 20 mA	0.15% + 10 mA
<b>Measurement Accuracy</b> (at 23°C ±5°C)							
	Voltage	0.1% + 20 mV	0.1% + 20 mV	0.1% + 20 mV	0.1% + 35 mV	0.1% + 60 mV	0.1% + 100 mV
	Current	0.15% + 20 mA	0.15% + 10 mA	0.15% + 5 mA	0.15% + 4 mA	0.15% + 4 mA	0.15% + 2 mA
<b>Load Transient Recovery Time</b> (time to recover to within the settling band following a load change from 50% to 100% and from 100% to 50% of full load.)							
	Voltage settling band	± 80 mV / 100 mV	± 80 mV / 100 mV	± 200 mV / 300 mV	± 200 mV / 300 mV	± 400 mV / 500 mV	± 500 mV / 1000 mV
	Time	200 µs	200 µs	200 µs	200 µs	200 µs	200 µs

<sup>1</sup> With an output change from no load to full load, up to a maximum load-load drop of 1 V per lead.

<sup>2</sup> Applies from minimum to maximum programming range. (see Supplemental Characteristics)

## Supplemental Characteristics

Supplemental characteristics are not warranted but are descriptions of performance determined either by design or type testing.  
All characteristics are typical unless otherwise noted.

		N6751A / N6752A	N6761A / N6762A
Programming Ranges			
	Voltage high range	20 mV – 51 V	15 mV – 51 V
	Voltage low range (≤ 5.5 V)	N/A	12 mV – 5.5 V
	Current high range	10 mA – 5.1 A/10 mA – 10.2 A	1 mA – 1.53 A/1 mA – 3.06 A
	Current low range (≤ 0.1 A)	N/A	0.1 mA – 0.1 A
Programming Resolution			
	Voltage high range	3.5 mV	880 μV
	Voltage low range (≤ 5.5 V)	N/A	90 μV
	Current high range	3.25 mA	60 μA
	Current low range (≤ 0.1 A)	N/A	2 μA
Measurement Resolution			
	Voltage high range	1.8 mV	440 μV
	Voltage low range (≤ 5.5 V)	N/A	44 μV
	Current high range	410 μA	30 μA
	Current low range (≤ 0.1 A)	N/A	1 μA
Programming Temperature Coefficient per °C			
	Voltage high range	18 ppm + 160 μV	18 ppm + 140 μV
	Voltage low range (≤ 5.5 V)	N/A	40 ppm + 70 μV
	Current high range	100 ppm + 45 μA	33 ppm + 10 μA
	Current low range (≤ 0.1 A)	N/A	60 ppm + 1.5 μA
Measurement Temperature Coefficient per °C			
	Voltage high range	25 ppm + 35 μV	23 ppm + 40 μV
	Voltage low range (≤ 5.5 V)	N/A	30 ppm + 40 μV
	Current high range	60 ppm + 3 μA	40 ppm + 0.3 μA
	Current low range (≤ 0.1 A)	N/A	50 ppm + 0.3 μA
Load Cross Regulation			
	Voltage, from no load to full load	1 mV	0.5 mV
	Current, from no load to full load	1 mA	5 μA
Output Ripple and Noise (PARD)			
	Typical CV peak-to-peak	4 mV	4 mV
	CC rms	2 mA	2 mA
Common Mode Noise (from either output to chassis)			
	rms (20 Hz - 20 MHz)	500 μA	500 μA
	peak-to-peak (20 Hz - 20 MHz)	< 2 mA	< 2 mA
Over-voltage Protection			
	Accuracy	0.25% + 250 mV	0.25% + 250 mV
	Response Time	50 μs from ocurrence of 0V condition to start of output shutdown	
Down-programming Capability <sup>1</sup>			
	Continuous power	7 W	7 W
	Peak current	7 A	3 A

<sup>1</sup> Modules can discharge a 1000  $\mu$ F capacitor from 50 V to 0 V at a rate of 4 times/second.

## Supplemental Characteristics (Continued)

Supplemental characteristics are not warranted but are descriptions of performance determined either by design or type testing.  
All characteristics are typical unless otherwise noted.

	N6751A / N6752A	N6761A / N6762A
<b>Up-programming Time with full resistive load:</b> (time from 10% to 90% of total voltage excursion)		
Voltage setting from 0 V to 10 V	0.2 ms	0.6 ms
Voltage setting from 0 V to 50 V	1.5 ms	2.2 ms
<b>Up-programming Settling Time with full resistive load:</b> (time from start of voltage change to within 50 mV of final value))		
Voltage setting from 0 V to 10 V	0.5 ms	0.9 ms
Voltage setting from 0 V to 50 V	4 ms	4 ms
<b>Down-programming Time with no load:</b> (time from start of voltage change to output voltage < 0.5 V)		
Voltage setting from 10 V to 0 V	0.3 ms	0.3 ms
Voltage setting from 50 V to 0 V	1.3 ms	1.3 ms
<b>Down-programming Settling Time with no load:</b> (time from start of voltage change to output voltage within 50 mV of final value)		
Voltage setting from 10 V to 0 V	0.45 ms	0.45 ms
Voltage setting from 50 V to 0 V	1.4 ms	1.4 ms
<b>Down-programming Time with 1000 <math>\mu</math>F load:</b> (time from start of voltage change to output voltage < 0.5 V)		
Voltage setting from 10 V to 0 V	2.1 ms	4.5 ms
Voltage setting from 50 V to 0 V	11 ms	23 ms

## Supplemental Characteristics (Continued)

Supplemental characteristics are not warranted but are descriptions of performance determined either by design or type testing.  
All characteristics are typical unless otherwise noted.

		<b>N6731B/ N6741B</b>	<b>N6732B/ N6742B</b>	<b>N6733B/ N6743B</b>	<b>N6734B/ N6744B</b>	<b>N6735B/ N6745B</b>	<b>N6736B/ N6746B</b>
<b>Programming Ranges</b>							
	Voltage	15 mV – 5.1 V	15 mV – 8.16 V	30 mV – 20.4 V	40 mV – 35.7 V	70 mV – 61 V	100 mV – 102 V
	Current	60 mA – 10.2 A/ 60 mA – 20.4 A	40 mA – 6.375 A/ 40 mA – 12.75 A	10 mA – 2.55 A/ 10 mA – 5.1 A	5 mA – 1.53 A/ 5 mA – 3.06 A	2.5 mA – 0.85 A/ 2.5 mA – 1.7 A	1.5 mA – 0.51 A/ 1.5 mA – 1.02 A
<b>Programming Resolution</b>							
	Voltage	3.5 mV	4 mV	7 mV	10 mV	18 mV	28 mV
	Current	7 mA	4 mA	3 mA	2 mA	1 mA	0.5 mA
<b>Measurement Resolution</b>							
	Voltage	3 mV	4 mV	10 mV	18 mV	30 mV	33 mV
	Current	10 mA	7 mA	3 mA	2 mA	1 mA	0.5 mA
<b>Output Ripple and Noise (PARD)</b>							
	CC rms	8 mA	4 mA	2 mA	2 mA	2 mA	2 mA
<b>Common Mode Noise</b> (from either output to chassis)							
	rms (20 Hz – 20 MHz)	1 mA	1 mA	1 mA	1 mA	1 mA	1 mA
	peak-to-peak (20Hz - 20MHz)	< 10 mA	< 10 mA	< 10 mA	< 10 mA	< 10 mA	< 10 mA
<b>Over-voltage Protection</b>							
	Accuracy (without relay option)	0.25% + 250 mV	0.25% + 250 mV	0.25% + 250 mV	0.25% + 250 mV	0.25% + 300 mV	0.25% + 300 mV
	Response Time	50 $\mu$ s from occurrence of 0V condition to start of output shutdown					
<b>Maximum Up-programming and Down-programming Time with full resistive load:</b> (time from 10% to 90% of total voltage excursion)							
	Voltage setting from 0 V to full scale and full scale to 0 V	20 ms	20 ms	20 ms	20 ms	20 ms	20 ms
<b>Maximum Up-programming and Down-programming Settling Time with full resistive load:</b> (time from start of voltage change until voltage settles within 0.1% of the full-scale voltage of its final value)							
	Voltage setting from 0 V to full scale and full scale to 0 V	100 ms	100 ms	100 ms	100 ms	100 ms	100 ms
<b>Remote Sense Capability:</b>		Outputs can maintain specifications with up to a 1-volt drop per load lead.					
<b>Series and Parallel Operation:</b>		Similarly rated outputs can be operated directly in parallel or can be connected for straight series operation. Auto-series and auto-parallel operation is not available.					



## Supplemental Characteristics (Continued)

Supplemental characteristics are not warranted but are descriptions of performance determined either by design or type testing.  
All characteristics are typical unless otherwise noted.

### N6700B MPS Mainframe

<b>Output Response Characteristics</b>	Command processing time	≤ 1 ms from receipt of command to start of the output change
<b>Protection Response Characteristics</b>	Inhibit Input	5 $\mu$ s (from receipt of inhibit to start of shutdown)
	Fault on coupled outputs	< 10 $\mu$ s (from receipt of fault to start of shutdown)
<b>Digital Control Characteristics</b>	Maximum voltage ratings	+16.5 VDC/-5 VDC between pins (pin 4 is internally connected to chassis ground).
	Pins 1 and 2 as FLT output	Maximum low-level output voltage = 0.5 V @ 4 mA Maximum low-level sink current = 4 mA Typical high-level leakage current = 0.14 mA @ 16.5 VDC
	Pins 1 thru 8 as digital/trigger outputs (pin 4 = common)	Maximum low-level output voltage = 0.5 V @ 4 mA; 1 V @ 50 mA; 1.75 V @ 100 mA Maximum low-level sink current = 100 mA Typical high-level leakage current = 0.12 mA @ 16.5 VDC
	Pins 1 thru 8 as digital/trigger inputs and pin 3 as INH input (pin 4 = common)	Maximum low-level input voltage = 0.8 V Minimum high-level input voltage = 2 V Typical low-level current = 2 mA @ 0 V (internal 2.2k pull-up) Typical high-level leakage current = 0.12 mA @ 16.5 VDC
<b>Interface Capabilities</b>	GPIB	SCPI - 1993, IEEE 488.2 compliant interface
	USB 2.0	Requires Agilent I/O Library version M.01.01.04
	10/100 LAN	Requires Agilent I/O Library version L.01.01
	Web server	Built-in Web server - requires Internet Explorer 5+ or Netscape 4.x
<b>Environmental Conditions</b>	Operating environment	Indoor use, installation category II <sup>1</sup> , pollution degree 2
	Temperature range	0°C to 55°C (output derated above 40°C)
	Relative humidity	Up to 95%
	Altitude	Up to 2000 meters
	Storage temperature	-30°C to 70°C

<sup>1</sup>Category II for AC input.

## Supplemental Characteristics (Continued)

Supplemental characteristics are not warranted but are descriptions of performance determined either by design or type testing.  
All characteristics are typical unless otherwise noted.

### N6700B MPS Mainframe

Regulatory Compliance		
	EMC	Complies with the European EMC directive 89/336/EEC for Class A test and measurement products.
		Complies with the Australian standard and carries the C-Tick mark.
		This ISM device complies with Canadian ICES-001.
		Cet appareil ISM est conforme à la norme NMB-001 du Canada.
		Electrostatic discharges greater than 1 kV near the I/O connectors may cause the unit to reset and require operator intervention.
	Safety	Complies with the European Low Voltage Directive 73/23/EEC and carries the CE-marking. This product also complies with the US and Canadian safety standards for test and measurement products.
Acoustic Noise Declaration		
	This statement is provided to comply with the requirements of the German Sound Emission Directive, from 18 January 1991.	Sound Pressure Lp < 70 dB(A), *At Operator Position, *Normal Operation, *According to EN 27779 (Type Test). Schalldruckpegel Lp <70 dB(A) *Am Arbeitsplatz, *Normaler Betrieb, *Nach EN 27779 (Typprüfung).
Isolation		
	No output terminal may be more than 240 VDC from any other terminal or chassis ground.	
AC Input		
	Nominal Input Ratings	100 VAC – 240 VAC; 50/60/400 Hz
	Input Range	86 VAC – 264 VAC
	Power Consumption	1000 VA typical; 1100 VA maximum (with power factor correction)
	Fuse	Internal fuse (not customer accessible)
Mainframe Dimensions		
	Height:	44.45 mm; 1.75 in.
	Width:	432.5 mm; 17.03 in.
	Depth:	596.9 mm; 23.5 in.
Mainframe Weight		
	With 4 installed modules	Net: 12.78 kg; 28 lbs.

## Agilent N67xxA Option Characteristics

### Output Relay Option

Mechanical relays that break conduction path on + output, - output, + sense, - sense. Relays sequenced to ensure no loss of control when sense lines are opened.

### High Speed Test Extensions

#### List mode

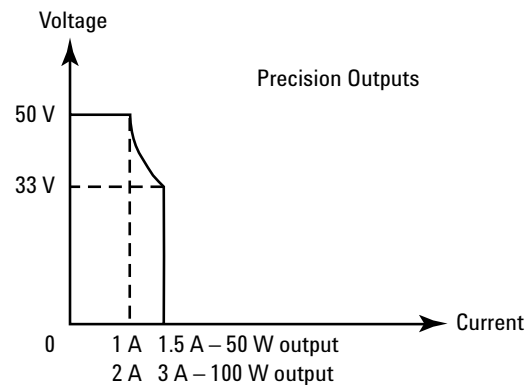
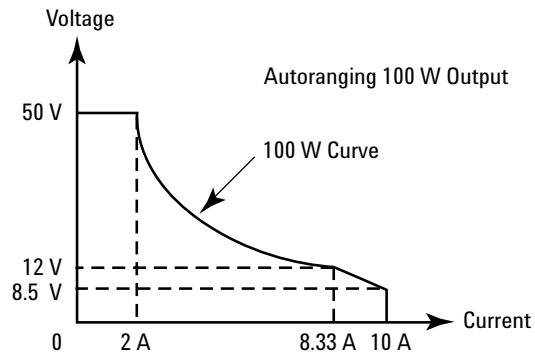
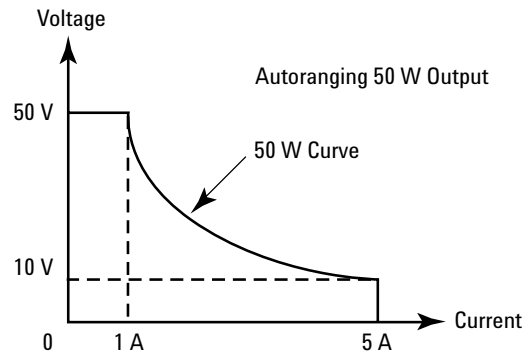
- Number of steps = 1 to 512
- Dwell time = 1  $\mu$ s to 262 seconds
- Maximum list repetitions = 256, or infinite

### High Speed Test Extensions

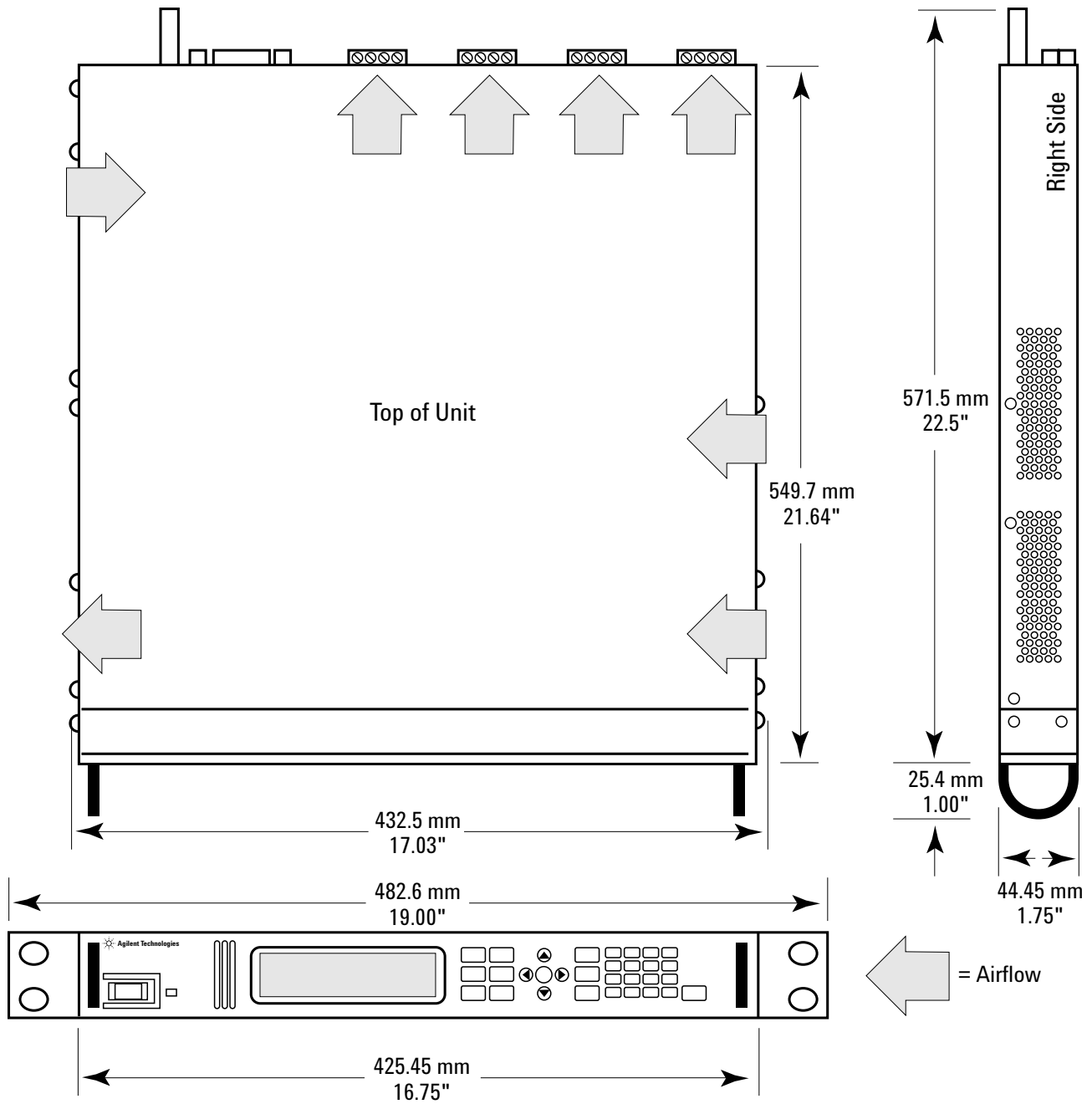
#### Digitizer

- Measurement points = 1 to 4096
- Sample rate = 0.000025 Hz to 50 kHz

## Autoranging Characteristic



## Outline Diagram



## Ordering Information

### The N6700 Modular Power System is available 2 ways:

- (1) You can order an N6700B mainframe and various modules as separate products. (See steps below.) Each item will arrive in a separate box such that you can assemble the system yourself when you need to.
- (2) You can order an N6710B, which is a build-to-order system that is shipped as a fully tested and assembled multiple-output power supply. (See pages 24 and 25 for N6710B ordering information.)

When ordering the N6700 MPS as a mainframe and modules, follow these steps:

#### Step 1:

Order the N6700B mainframe and appropriate documentation and line cord options.

#### Step 2:

Order 1 to 4 modules (see next page).

#### Step 3.

For proper N6700B operation, you must fill any empty module slots with filler panels. When ordering less than 4 modules per mainframe, you **MUST** order an N6700B-FLR Filler Panel Kit. Each kit contains 3 filler panels.

#### Step 4:

If you will be rack mounting the N6700B, you **MUST** order N6700B-908 Rack Mount Kit.

### Mainframe

<b>N6700B</b>	Low-Profile Modular Power System Mainframe Holds 1 to 4 modules.
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### Available options to N6700B

<b>N6700B-908</b>	Rack Mount Kit Required for rack mounting. Standard rack mount hardware will not work. This N6700 Rack Mount Kit is also orderable separately as product N6709A
<b>N6700B-FLR</b>	Filler Panel Kit Required when you have < 4 modules in an N6700B. Each filler panel kit contains 3 filler panels. This N6700 Filler Panel Kit is also orderable separately as product N6708A
<b>N6700B-0L1</b>	Standard Documentation Kit
<b>N6700B-0L2</b>	Additional copy of Standard Documentation Kit
<b>N6700B-0B0</b>	Delete Standard Documentation Kit
<b>N6700B-900</b>	Power Cord, United Kingdom, P/N 8120-1351
<b>N6700B-901</b>	Power Cord, Australia, P/N 8120-1369
<b>N6700B-902</b>	Power Cord, Europe, P/N 8120-1689
<b>N6700B-903</b>	Power Cord, USA, Canada, P/N 8120-4383
<b>N6700B-904</b>	Power Cord, USA, Canada, P/N 8120-0698
<b>N6700B-906</b>	Power Cord, Switzerland, P/N 8120-2104
<b>N6700B-912</b>	Power Cord, Denmark, P/N 8120-2956
<b>N6700B-917</b>	Power Cord, South Africa, India, P/N 8120-4211
<b>N6700B-918</b>	Power Cord, Japan, P/N 8120-4753
<b>N6700B-919</b>	Power Cord, Israel, P/N 8120-6800
<b>N6700B-920</b>	Power Cord, Argentina, P/N 8120-6869
<b>N6700B-921</b>	Power Cord, Chile, P/N 8120-6980
<b>N6700B-922</b>	Power Cord, China, P/N 8120-8376
<b>N6700B-927</b>	Power Cord, Thailand, P/N 8120-8871

## Ordering Information

### Modules

Order 1 to 4 modules to be installed into each N6700B mainframe. (To order modules as part of N6710B, see page 25.)

You can individually specify each option for each module. For example, you can order the one module with Option 761 Output Disconnect Relays, while the remaining modules have no relay option.

As your needs change and you want to change configuration or add more modules to existing N6700A or N6700B mainframes, use this ordering information to order the required modules.

### Modules

<b>N6730 50 W</b>		
<b>DC Power Modules</b>	<b>N6731B</b>	5 V, 10 A, 50 W DC Power Module
	<b>N6732B</b>	8 V, 6.25 A, 50 W DC Power Module
	<b>N6733B</b>	20 V, 2.5 A, 50 W DC Power Module
	<b>N6734B</b>	35 V, 1.5 A, 50 W DC Power Module
	<b>N6735B</b>	60 V, 0.8 A, 50 W DC Power Module
	<b>N6736B</b>	100 V, 0.5 A, 50 W DC Power Module
<b>Available options to N673xB modules</b>	<b>N673xB-761</b>	Output Disconnect Relays
	<b>N673xB-UK6</b>	Commercial calibration with test results data
	<b>N673xB-1A7</b>	ISO 17025 Cal certificate
<b>N6740 100 W</b>		
<b>DC Power Modules</b>	<b>N6741B</b>	5 V, 20 A, 100 W DC Power Module
	<b>N6742B</b>	8 V, 12.5 A, 100 W DC Power Module
	<b>N6743B</b>	20 V, 5 A, 100 W DC Power Module
	<b>N6744B</b>	35 V, 3 A, 100 W DC Power Module
	<b>N6745B</b>	60 V, 1.6 A, 100 W DC Power Module
	<b>N6746B</b>	100 V, 1 A, 100 W DC Power Module
<b>Available options to N674xB modules</b>	<b>N674xB-761</b>	Output Disconnect Relays
	<b>N674xB-UK6</b>	Commercial calibration with test results data
	<b>N674xB-1A7</b>	ISO 17025 Cal certificate
<b>N6750 High-Performance, Autoranging DC</b>		
<b>Power Modules</b>	<b>N6751A</b>	50 V, 5 A, 50 W High-Performance Autoranging DC Power Module
	<b>N6752A</b>	50 V, 10 A, 100 W High-Performance Autoranging DC Power Module
<b>Available options to N675xA modules</b>	<b>N675xA-761</b>	Output Disconnect Relays
	<b>N675xA-054</b>	High-Speed Test Extensions
	<b>N675xA-UK6</b>	Commercial calibration with test results data
	<b>N675xA-1A7</b>	ISO 17025 Cal certificate
<b>N6760 Precision</b>		
<b>DC Power Modules</b>	<b>N6761A</b>	50 V, 5 A, 50 W Precision DC Power Module
	<b>N6762A</b>	50 V, 10 A, 100 W Precision DC Power Module
<b>Available options to N676xA modules</b>	<b>N676xA-761</b>	Output Disconnect Relays
	<standard>	High-Speed Test Extensions are included on all N676xA modules
	<b>N676xA-UK6</b>	Commercial calibration with test results data
	<b>N676xA-1A7</b>	ISO 17025 Cal certificate

## Ordering Information

### N6710B Systems

To purchase an N6710 Modular Power System, order an N6710B. The N6710B is a build-to-order system that is shipped as a fully tested and assembled multiple-output power supply. Each N6710B consists of 1 N6700B mainframe plus optionally 1 to 4 modules. To specify which modules you want installed in the N6710B, modules are ordered as options to the N6710B. If you order less than 4 modules, the empty slots will be automatically filled with blank filler panels. You must order at least 1 module.

**N6710B System** Build-to-Order Modular Power System (Consists of 1 N6700B mainframe)

#### Available options to N6710B

<b>N6710B-908</b>	Rack Mount Kit Required for rack mounting. Standard rack mount hardware will not work. This N6700 Rack Mount Kit is also orderable separately as product N6709A
<b>N6710B-0L1</b>	Standard Documentation Kit
<b>N6710B-0L2</b>	Additional copy of Standard Documentation Kit
<b>N6710B-0B0</b>	Delete Standard Documentation Kit
<b>N6710B-900</b>	Power Cord, United Kingdom, P/N 8120-1351
<b>N6710B-901</b>	Power Cord, Australia, P/N 8120-1369
<b>N6710B-902</b>	Power Cord, Europe, P/N 8120-1689
<b>N6710B-903</b>	Power Cord, USA, Canada, P/N 8120-4383
<b>N6710B-904</b>	Power Cord, USA, Canada, P/N 8120-0698
<b>N6710B-906</b>	Power Cord, Switzerland, P/N 8120-2104
<b>N6710B-912</b>	Power Cord, Denmark, P/N 8120-2956
<b>N6710B-917</b>	Power Cord, South Africa, India, P/N 8120-4211
<b>N6710B-918</b>	Power Cord, Japan, P/N 8120-4753
<b>N6710B-919</b>	Power Cord, Israel, P/N 8120-6800
<b>N6710B-920</b>	Power Cord, Argentina, P/N 8120-6869
<b>N6710B-921</b>	Power Cord, Chile, P/N 8120-6980
<b>N6710B-922</b>	Power Cord, China, P/N 8120-8376
<b>N6710B-927</b>	Power Cord, Thailand, P/N 8120-8871

## Ordering Information

### Modules as options to N6710B

To order a module as an option to an N6710B, specify its model number, followed by “-ATO”.

For example, to order an N6731B as an option to the N6710B, you would specify “N6731B -ATO” as the option. (To order modules as separate products, see page 23.)

You can individually specify each option for each module. For example, you can order the first module with Option 761 Output Disconnect Relays, while the remaining modules have no relay option.

### Module options for N6710B System

<b>N6730 50 W</b>		
<b>DC Power Modules</b>	<b>N6731B-ATO</b>	5 V, 10 A, 50 W DC Power Module
	<b>N6732B-ATO</b>	8 V, 6.25 A, 50 W DC Power Module
	<b>N6733B-ATO</b>	20 V, 2.5 A, 50 W DC Power Module
	<b>N6734B-ATO</b>	35 V, 1.5 A, 50 W DC Power Module
	<b>N6735B-ATO</b>	60 V, 0.8 A, 50 W DC Power Module
	<b>N6736B-ATO</b>	100 V, 0.5 A, 50 W DC Power Module
<b>Available options to N673xB modules</b>		
	<b>N673xB-ATO-761</b>	Output Disconnect Relays
	<b>N673xB-ATO-UK6</b>	Commercial calibration with test results data
	<b>N673xB-ATO-1A7</b>	ISO 17025 Cal certificate
<b>N6740 100 W</b>		
<b>DC Power Modules</b>	<b>N6741B-ATO</b>	5 V, 20 A, 100 W DC Power Module
	<b>N6742B-ATO</b>	8 V, 12.5 A, 100 W DC Power Module
	<b>N6743B-ATO</b>	20 V, 5 A, 100 W DC Power Module
	<b>N6744B-ATO</b>	35 V, 3 A, 100 W DC Power Module
	<b>N6745B-ATO</b>	60 V, 1.6 A, 100 W DC Power Module
	<b>N6746B-ATO</b>	100 V, 1 A, 100 W DC Power Module
<b>Available options to N674xB modules</b>		
	<b>N674xB-ATO-761</b>	Output Disconnect Relays
	<b>N674xB-ATO-UK6</b>	Commercial calibration with test results data
	<b>N674xB-ATO-1A7</b>	ISO 17025 Cal certificate
<b>N6750 High-Performance, Autoranging DC</b>		
<b>Power Modules</b>	<b>N6751A-ATO</b>	50 V, 5 A, 50 W High-Performance Autoranging DC Power Module
	<b>N6752A-ATO</b>	50 V, 10 A, 100 W High-Performance Autoranging DC Power Module
<b>Available options to N675xA modules</b>		
	<b>N675xA-ATO-761</b>	Output Disconnect Relays
	<b>N675xA-ATO-054</b>	High-Speed Test Extensions
	<b>N675xA-ATO-UK6</b>	Commercial calibration with test results data
	<b>N675xA-ATO-1A7</b>	ISO 17025 Cal certificate
<b>N6760 Precision</b>		
<b>DC Power Modules</b>	<b>N6761A-ATO</b>	50 V, 5 A, 50 W Precision DC Power Module
	<b>N6762A-ATO</b>	50 V, 10 A, 100 W Precision DC Power Module
<b>Available options to N676xA modules</b>		
	<b>N676xA-ATO-761</b>	Output Disconnect Relays
	<standard>	High-Speed Test Extensions are included on all N676xA modules
	<b>N676xA-ATO-UK6</b>	Commercial calibration with test results data
	<b>N676xA-ATO-1A7</b>	ISO 17025 Cal certificate



## Compatibility and Upgrade Information

You have	with firmware	and with modules	If you want to ...	... here is what you need to do
<b>N6710A or N6700A</b>	Any version starting with A (example: A.00.00)	Any combination of modules with model number N673xA, N674xA, N675xA or N676xA	Add more modules with model numbers N673xA, N674xA, N675xA, or N676xA	Capability available with your current version of hardware and firmware; No upgrade required.
			Add more modules with model numbers N673xB or N674xB	Install firmware version B.00.00 or greater available at <a href="http://www.agilent.com/find/n6700">www.agilent.com/find/n6700</a>
			Add or change modules to mix-and-match any combination of modules with model numbers N673xA, N673xB, N674xA, N674xB, N675xA, and N676xA	Install firmware version B.00.00 or greater available at <a href="http://www.agilent.com/find/n6700">www.agilent.com/find/n6700</a>
			Add virtual channel capability for paralleling	Install firmware version B.00.00 or greater available at <a href="http://www.agilent.com/find/n6700">www.agilent.com/find/n6700</a>
			Add programmable voltage slew capability	Install firmware version B.00.00 or greater available at <a href="http://www.agilent.com/find/n6700">www.agilent.com/find/n6700</a>
<b>N6700A or N6710A</b>	B.00.00 or greater	Any combination of modules with model number N673xA, N673xB, N674xA, N674xB, N675xA, or N676xA	Add or change modules to mix-and-match any combination of modules with model numbers N673xA, N673xB, N674xA, N674xB, N675xA, and N676xA	Capability available with your current version of hardware and firmware; No upgrade required.
			Add virtual channel capability for paralleling	Capability available with your current version of hardware and firmware; No upgrade required.
			Add programmable voltage slew capability	Capability available with your current version of hardware and firmware; No upgrade required.
<b>N6700B or N6710B</b>	B.00.00 or greater	Any combination of modules with model number N673xA, N673xB, N674xA, N674xB, N675xA, or N676xA	Add or change modules to mix-and-match any combination of modules with model numbers N673xA, N673xB, N674xA, N674xB, N675xA, and N676xA	Capability available with your current version of hardware and firmware; No upgrade required.
			Add virtual channel capability for paralleling	Capability available with your current version of hardware and firmware; No upgrade required.
			Add programmable voltage slew capability	Capability available with your current version of hardware and firmware; No upgrade required.

## Compatibility and Upgrade Information (Continued)

You have	with firmware	and with modules	If you want to ...	... here is what you need to do
<b>N6721A thru N6729A</b>	Any version starting with A (example: A.00.00)	Any combination of modules with model number N675xA or N676xA	Add more modules with model numbers N675xA or N676xA	Capability available with your current version of hardware and firmware; No upgrade required.
			Add more modules with model numbers N673xA or N674xA (see note 1 below)	Capability available with your current version of hardware and firmware; No upgrade required.
			Add more modules with model numbers N673xB or N674xB (see note 1 below)	Install firmware version B.00.00 or greater available at <a href="http://www.agilent.com/find/n6700">www.agilent.com/find/n6700</a>
			Add or change modules to mix-and-match any combination of modules with model numbers N673xA, N673xB, N674xA, N674xB, N675xA, and N676xA (see note 1 below)	Install firmware version B.00.00 or greater available at <a href="http://www.agilent.com/find/n6700">www.agilent.com/find/n6700</a>
			Add virtual channel capability for paralleling (see note 2 below)	Install firmware version B.00.00 or greater available at <a href="http://www.agilent.com/find/n6700">www.agilent.com/find/n6700</a>
			Add programmable voltage slew capability (see note 2 below)	Install firmware version B.00.00 or greater available at <a href="http://www.agilent.com/find/n6700">www.agilent.com/find/n6700</a>

### Notes:

<sup>1</sup> If you add modules with model #'s N673xA, N673xB, N674xA, or N674xB, you will not be able to access the Agilent 662x command set compatibility of your N672xA for any installed modules. Only SCPI commands will be accepted.

<sup>2</sup> These features are not available in the Agilent 662x command set. You must use SCPI commands to access these new programmable features.

**Compatibility with older models**  
If you previously purchased an Agilent 662xA or N672xA, and you want to make another purchase, use the table at right to find the equivalent configuration of N6700B Low-Profile Modular Power System Mainframe and DC Power Modules.

Older Agilent Model	A version model number	Equivalent configuration with latest N6700 series models
6621A	N6721A	N6700B + 2 x N6752A
6622A	N6722A	N6700B + 2 x N6752A
6623A	N6723A	N6700B + 2 x N6751A 1 x N6752A
6624A	N6724A	N6700B + 4 x N6751A
6625A	N6725A	N6700B + 1 x N6761A 1 x N6762A
6626A	N6726A	N6700B + 2 x N6761A 2 x N6762A
6627A	N6727A	N6700B + 4 x N6751A
6628A	N6728A	N6700B + 2 x N6762A
6629A	N6729A	N6700B + 4 x N6762A

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Product specifications and descriptions in this document subject to change without notice. For latest and complete specifications, refer to the N6700 User's Guide, Agilent part number 5969-2908. The web contains the most up-to-date version of the User's Guide. Go to **<http://www.agilent.com/find/N6700>**.

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